

IMPACT OF MIXED EQUINE INFLUENZA VACCINATION ON CORRELATE OF PROTECTION IN HORSES

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In order to evaluate the humoral immune response to mixed equine influenza vaccination, a common practice in the field, an experimental study was carried out on 42 unvaccinated thoroughbred weanlings foals divided into 6 groups of 7. Three groups were vaccinated using a non-mixed protocol (Equilis® Prequenza-Te, Proteqflu-Te® or Calvenza-03®) and three other groups were vaccinated using a mix of the three vaccines mentioned previously. Each foal underwent a primary EI vaccination schedule composed of two primary immunisations (V1 and V2) 4 weeks apart followed by a third boost immunisation (V3) 6 months later. Antibody responses were monitored until one-year post-V3 by single radial hemolysis (SRH), a correlate of protection against equine influenza virus (EIV) infection. The results showed similar antibody responses for all groups using mixed EI vaccination and the group exclusively vaccinated with Equilis® Prequenza-TE, which were significantly higher than the other 2 groups vaccinated with Proteqflu-TE® and Calvenza-03®. All the weanlings (100%) failed to seroconvert after V1 and 21% (9/42) still had low or no SRH antibody titres 2 weeks post-V2. All weanlings had seroconverted and exceeded the clinical protection threshold one month after V3. The poor response to vaccination was primarily observed in groups exclusively vaccinated with Proteqflu-Te® and Calvenza-03®. A large window of susceptibility (3 to 4.5 months duration) usually called immunity gap was observed after V2 and prior to V3 for all groups. The SRH antibody level was maintained above the clinical protection threshold for 3 months post-V3 for the groups exclusively vaccinated with Proteqflu-Te® and Calvenza-03®, 6 months to one year for groups using mixed EI vaccination or exclusively vaccinated with Equilis® Prequenza-Te. This study demonstrates for the first time that the mix of EI vaccines during the primary vaccination schedule has no detrimental impact on the correlate of protection against EIV infection.

Biography

Mohamed Dilai is a Veterinarian graduated from Hassan II Institute for Agronomy and Veterinary Medicine in Morocco in 2008. He started his career in the pharmaceutical industry at Elanco Animal health and stayed for a period of 3 years. In 2012, he joined the National Horse Institute in Rabat and started his PhD in 2014 for the study of equine influenza. In 2016, he joined the Hassan II Institute for Agronomy and Veterinary Medicine as a Clinician in Equine Department.

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